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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,094	03/19/2004	William S. Sykes	32063.00.0002	7705

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EXAMINER

KASTLER, SCOTT R

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/805,094

Applicant(s)

SYKES, WILLIAM S.

Examiner

Scott Kastler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 15-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Objections

Claims 28-34 are objected to because of the following informalities: The above claims are informal in that in independent claim 28, from which claims 29-34 depend, the term "increasing gas pressure of oxygen" is unclear, because the use or introduction of oxygen in the claimed process is not previously mentioned, thereby raising the issue of proper antecedent basis for the term "oxygen". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 18-21 30 and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The above claims are not clearly supported by the invention as originally filed because the only mention of any rate of advance of the cutting torch is at page 5 line 5 of the specification, which states that the cut rate for mild steel of ½ inch thickness is 13 feet in 90 seconds. However, the "cut rate" is a) not identical to the torch movement rate (since torch movement does not require that a cut be made, b) the "cut rate" is dependent upon the material being cut and the thickness of the material or cut to be made, neither of which is specified in the

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above claims and c) the rate recited in the specification, 13 feet in 90 seconds, is not of the same scope as that claimed in any of the above claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23-30 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith.

Smith teaches a metal cutting apparatus and method of metal cutting including a two part cutting torch (B), including both a preheating mixture of oxygen and combustible gas (see page 2 lines 70-74 for example) and a source of liquid oxygen for cutting the metal (through line 16), where the liquid oxygen is supplied at between 150 and 220 psi (see the table at page 3 for example, which teaches supplying the cutting oxygen at 174 psi) and including a heater (28) and insulated line (17, 16) which would ensure that the liquid oxygen does not freeze in the hose (16) and regulators (14 and 15) thereby showing all aspects of the above claims.

Claims 23-30 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Lotz et al. Lotz et al teaches a metal cutting apparatus and method of metal cutting including a two part cutting torch (5,6), including both a preheating mixture of oxygen and combustible gas (see the embodiment of figure 1 for example) and a source of liquid oxygen for cutting the metal (1),

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where the liquid oxygen is supplied at between 150 and 220 psi (see the table 1 at col. 3 for example) and including a heater (2) which would ensure that the liquid oxygen does not freeze in the hose and regulators (3, 4) thereby showing all aspects of the above claims.

Claims 23, 24, 26 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Babcock. Babcock teaches a metal cutting apparatus and method of metal cutting including a two part cutting torch (see the embodiments of figures 3 and 4 for example), including both a preheating mixture of oxygen and combustible gas (from lines 34 and 38 example) and a source of liquid oxygen for cutting the metal (through line 32), where the liquid oxygen is supplied through hose 21 and including a heater (19, 20) which would ensure that the liquid oxygen does not freeze in the hose (21) and regulator (17, 18) thereby showing all aspects of the above claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughey in view of either of Smith or Lotz et al. Hughey teaches a method and apparatus for cutting metal including melting the metal and directing the molten metal away from the operator, where the torch is inclined (placed at an angle of incidence) of less than or equal to 45 degrees

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(see figure 3 for example) and causing the molten metal to be removed from the cut at an angle of reflection away from the cutting torch, where the cutting speed, and thereby the torch movement speed may be at any desired rate, depending upon the depth of the cut that is desired, thereby showing all aspects of the above claims except the use of a liquid oxygen supplied cutting torch and pre-heating arrangement as recited in the above claims. As applied to claim 23 above, both of Smith and Lotz et al teach improved cutting torches employing liquid oxygen sources and pre-heating arrangements meeting the requirements of the above claims, and which allow for faster cutting speeds. Because faster cutting speeds are also desired by Hughey, and Hughey recites the general use of an oxygen cutting torch, motivation to employ the liquid oxygen cutting arrangements of either of Smith or Lotz et al, as the recited oxygen torch of Hughey et al, in order to attain the higher cutting speeds afforded by either of Smith or Lotz et al, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith or Lotz et al as applied to claim 28 above, further in view of Pearl II et al. As applied to claim 28 above, either of Smith or Lotz et al show all aspects of the above claims except the specific use of either propane or propylene as the combustion gas, although both of Smith (see page 2, lines 70-75) Lotz et al (the heating gas) allow for the use of any desired combustible gas. Pearl II et al at col. 4 lines 58-65 for example, teach that both propane and propylene were well known combustion gases at the time the invention was made. Because neither of Smith or Lotz et al require any specific combustion gas, motivation to employ any equivalent well known combustion gas, including either propane or propylene as taught by Pearl II et al, as the

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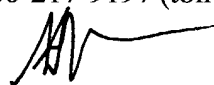
combustion, or heating gas required by either of Smith or Lotz et al, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (571) 272-1243. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Scott Kastler
Primary Examiner
Art Unit 1742

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